CLAIMS

1. An information processing apparatus for processing
data, comprising a plurality of operating systems (OS's),
the plurality of OS's including a main OS controlling an
interrupt process and a sub OS, the main OS storing status
information as to whether the sub OS is in an interrupt
enabled state or an interrupt disabled state, and
controlling the interrupt process to perform one of an
interrupt process execution and an interrupt process reserve
in response to the generation of the interrupt based on the
status information.

2. The information processing apparatus according to
claim 1, wherein the main OS stores interrupt process status
information as to whether the interrupt process is in
progress or in reserve, and resumes the interrupt process
execution in response to the transition of the sub OS
between the interrupt enabled state and the interrupt
disabled state.

3. The information processing apparatus according to
claim 1, wherein the sub OS notifies the main OS of the
status information as to whether the sub OS is in the
interrupt enabled state or the interrupt disabled state, and

wherein the main OS updates the status information of the sub OS in response to the notification from the sub OS.

4. The information processing apparatus according to claim 1, wherein the main OS stores priority information of the interrupt process, and performs the interrupt process responsive to the priority information.

5. The information processing apparatus according to claim 1, wherein the main OS performs status management based on a status table containing the status information of the sub OS and the interrupt process status information as to whether the interrupt process is in progress or in reserve,

if an interrupt intended for the sub OS is generated and the main OS determines based on the status table that the sub OS is in the interrupt disabled state, registers the interrupt in the status table as a reserved interrupt, and

if an interrupt intended for the sub OS is generated and the main OS determines based on the status table that the sub OS is in the interrupt enabled state, performs interrupt control depending on whether the OS operating on a processor is either the main OS or the sub OS in a manner such that

(a) if the main OS is in operation, the main OS

(a1) executes the interrupt process in response to a high priority interrupt, or

(a2) reserves the interrupt process in response to a low priority interrupt, and that

(b) if the sub OS is in operation, the sub OS executes the interrupt process regardless of the priority level of the interrupt.

6.   The information processing apparatus according to claim 1, wherein the main OS performs status management based on a status table containing the status information of the sub OS and the interrupt process status information as to whether the interrupt process is in progress or in reserve,
and

if an interrupt intended for the main OS is generated, performs interrupt control depending on whether the OS operating on a processor is either the main OS or the sub OS in a manner such that

(a) if the main OS is in operation, the main OS executes the interrupt process regardless of the priority level of the interrupt, and that

(b) if the sub OS is in operation, the sub OS

(b1) executes the interrupt process in response to a high priority interrupt, or

(b2) reserves the interrupt process in response to a low priority interrupt.

7. An interrupt process control method for performing data processing on a plurality of operating systems (OS's), the method comprising steps of:

receiving, from a sub OS other than an main OS, status information as to whether the sub OS is in an interrupt enabled state or an interrupt disabled state;

detecting the generation of an interrupt; and

controlling an interrupt process to perform one of an interrupt process execution and an interrupt process reserve in response to the generation of the interrupt based on the status information.

8. The interrupt process control method according to claim 7, wherein the main OS stores interrupt process status information as to whether the interrupt process is in progress or in reserve, and resumes the interrupt process execution .in response to the transition of the sub OS between the interrupt enabled state and the interrupt disabled state.

9. The interrupt process control method according to claim 7, further comprising steps of:

notifying the main OS of the status information as to whether the sub OS is in the interrupt enabled state or the interrupt disabled state, and

updating the status information of the sub OS in response to the notification from the sub OS.

10.   The interrupt process control method according to claim 7, wherein the main OS stores priority information of the interrupt process, and performs the interrupt process responsive to the priority information.

11.   The interrupt process control method according to claim 7, wherein the main OS performs status management based on a status table containing the status information of the sub OS and the interrupt process status information as to whether the interrupt process is in progress or in reserve,

if an interrupt intended for the sub OS is generated and the main OS determines based on the status table that the sub OS is in the interrupt disabled state, registers the interrupt in the status table as a reserved interrupt, and

if an interrupt intended for the sub OS is generated and the main OS determines based on the status table that the sub OS is in the interrupt enabled state, performs interrupt control depending on whether the OS operating on a

processor is either the main OS or the sub OS in a manner

such that

(a) if the main OS is in operation, the main OS

(a1) executes the interrupt process in response to a

high priority interrupt, or

(a2) reserves the interrupt process in response to a

low priority interrupt, and that

(b) if the sub OS is in operation, the sub OS executes

the interrupt process regardless of the priority level of

the interrupt.

12.   The interrupt process control method according to

claim 7, wherein the main OS performs status management

based on a status table containing the status information of

the sub OS and the interrupt process status information as

to whether the interrupt process is in progress or in

reserve,

and

if an interrupt intended for the main OS is generated,

performs interrupt control depending on whether the OS

operating on a processor is either the main OS or the sub OS

in a manner such that

(a) if the main OS is in operation, the main OS

executes the interrupt process regardless of the priority

level of the interrupt, and that

(b) if the sub OS is in operation, the sub OS

(b1) executes the interrupt process in response to a high priority interrupt, or

(b2) reserves the interrupt process in response to a low priority interrupt.

13. A computer program for performing data processing on a plurality of operating systems (OS's), the computer program comprising steps of:

receiving, from a sub OS other than an main OS, status information as to whether the sub OS is in an interrupt enabled state or an interrupt disabled state;

detecting the generation of an interrupt; and

controlling an interrupt process to perform one of an interrupt process execution and an interrupt process reserve in response to the generation of the interrupt based on the status information.